

REMARKS

Claims 1-8 and 10-20 of the present application remain pending. Claims 1 and 10 are amended herein. No new matter is added as a result of the claim amendments.

ALLOWABLE SUBJECT MATTER

The Applicant wishes to thank the Examiner for indicating the allowable subject matter of the present invention.

DRAWINGS

Figure 3 is objected to for being illegible. The Applicant respectfully submit that formal drawings of Figure 3 are to be submitted to eliminate the illegibility described in the rejection. Therefore, the Applicant respectfully requests withdrawal of the objection to the drawings

SPECIFICATION

The rejection states that the second sentence in paragraph [0017] appears to conflict with the first sentence in paragraph [0017]. The rejection states that the first sentence is believed to be correct. The Applicant respectfully submits that the second sentence of paragraph [0017] as submitted is correct and that the amended

paragraph [0017] submitted herein corrects an unintended transcription error. No new matter has been added. Accordingly, the Applicant respectfully requests withdrawal of the objection to the specification.

CLAIM REJECTIONS 35 U.S.C. § 112

Claims 1-9, 16, and 18-20 are rejected under 35 U.S.C. § 112 first paragraph as failing to comply with the enablement requirement. As will be discussed in greater detail below, Applicants respectfully submit that the specification does describe the subject matter claimed in Claims 1 and 18 of the present invention in a manner as to enable one skilled in the art to make and/or use the invention. Thus, the Applicant respectfully submits that Claims 1 and 18 are in compliance with the enablement requirement of the first paragraph of 35 U.S.C. § 112 and respectfully requests withdrawal of the rejection of Claims 1 and 18 under 35 U.S.C. § 112 first paragraph in view of the discussion below.

Claims 2-8 depend from Claim 1 and recite additional claim limitations descriptive of embodiments of the present invention. Accordingly, the Applicant respectfully requests withdrawal of the rejection of Claims 2-8 under 35 U.S.C. § 112 first paragraph.

Claims 19 and 20 depend from Claim 18 and recite additional claim limitations descriptive of embodiments of the present invention. Accordingly, the

Applicant respectfully requests withdrawal of the rejection of Claims 19 and 20 under 35 U.S.C. § 112 first paragraph in view of the discussion below.

The rejection cites paragraphs [0023] and [0024] of the specification to explain the operation of the subtractive circuit M4. Paragraph [0024] states (emphasis added):

For example, the slope of the input voltage versus the output current is based on the equation slope (e.g., I_o 260) = V_{IN}/R . Thus, the slope is determined by R where $R=R_N=R_P$, and it is appreciated that without further circuitry, when both are working the overlap current versus voltage slope would double. In order to resolve the spike in I_o 260 when both the first MOSFET stage 210 and the second MOSFET stage 220 are operational a subtractive circuit is used. In one embodiment, the current in M7 254 (and therefore M8 256) is mirrored to M4 248 (the regulator) and then subtracted from the first MOSFET stage 210 of the circuit 200. Therefore, at the point that both the first MOSFET stage 210 and the second MOSFET stage 220 are operational, the current generated by the second MOSFET stage 220 is subtracted from the first MOSFET stage 210 via M4 248 and it will therefore effect equal change to M8 246 and M9 256. That is, any gains of the second MOSFET stage 220 are removed by the first MOSFET stage 210 via M4 248 thereby keeping the voltage-to-current slope linear over the input range.

The Applicant respectfully submits that current changes at M7 (254) are mirrored at both M4 (248) and M9 (256). Due to the coupling of M4 with first MOSFET stage 210, the current at M4 is subtracted from first MOSFET stage 210 which is then mirrored through M3 (244) and M8 (246). Because the current subtracted from first MOSFET stage 210 is mirrored at M8, it negates the change in current from second MOSFET stage 220 which is mirrored at M9. Thus, the net result of a current change of second MOSFET stage 220, as measured at I_{out} 260 is zero when both stages are operating in the medium voltage range. In other words, the first MOSFET stage 210 does not in itself subtract the current of the second MOSFET stage 220. Instead, the current of second

MOSFET stage 220 is subtracted from the first MOSFET stage 210 due to the coupling of those stages via M4.

Applicant understands the rejection to erroneously assume that the first MOSFET stage 210 somehow controls transistor M4. Applicant respectfully submits that this is neither taught, suggested, nor recited in the instant Application. As stated above, the first MOSFET circuit 210 does not subtract the contribution of the second MOSFET circuit 220. Instead, the subtractive circuit causes the contribution of the second MOSFET stage 220 to be subtracted from the contribution of the first MOSFET stage 210 when both stages are operating in the mid voltage range. Accordingly, the Applicant respectfully submits that the specification of the instant application does describe the subject matter claimed in Claims 1, 10, and 18 of the present invention in such a manner as to enable one skilled in the art to make and/or use the invention. Accordingly, the Applicant respectfully requests withdrawal of the rejection of Claims 1, 10, and 18 under 35 U.S.C. § 112 first paragraph.

Claims 2-8 depend from Claim 1 and recite additional claim limitations descriptive of embodiments of the present invention. Accordingly, the Applicant respectfully requests withdrawal of the rejection of Claims 2-8 under 35 U.S.C. § 112 first paragraph.

Claims 11-17 depend from Claim 10 and recite additional claim limitations descriptive of embodiments of the present invention. Accordingly, the Applicant

respectfully requests withdrawal of the rejection of Claims 11-17 under 35 U.S.C. § 112 first paragraph.

Claims 19 and 20 depend from Claim 18 and recite additional claim limitations descriptive of embodiments of the present invention. Accordingly, the Applicant respectfully requests withdrawal of the rejection of Claims 19 and 20 under 35 U.S.C. § 112 first paragraph.

CONCLUSION


Based on the arguments presented above, the Applicants respectfully assert that Claims 1-20 overcome the rejections of record and, therefore, the Applicants respectfully solicit allowance of these Claims.

The Examiner is invited to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

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